REMARKS

Status of the Claims

Claims 1, 2, 4-18, 20, 22 and 25-34 are currently pending in the application. Claims 1, 2 and 4-36 stand rejected. Claim 1 has been amended. Claims 19, 21, 23, 24, 35 and 36 have been cancelled. All amendments and cancellations are made without prejudice or disclaimer. No new matter has been added by way of the present amendments. Specifically, the amendment to claim 1 is supported at least by claims 19 and 21, now cancelled. Reconsideration is respectfully requested.

ENTRY OF AMENDMENTS

The amendments to the claims should be entered by the Examiner because the amendments are supported by the as-filed specification and do not add any new matter to the application. Additionally, the amendments should be entered since they comply with requirements as to form, and place the application in condition for allowance. Further, the amendments do not raise new issues or require a further search since the amendments incorporate elements from dependent claims into independent claims and/or are supported by the as-filed specification. Finally, if the Examiner determines that the amendments do not place the application in condition for allowance, entry is respectfully requested since they certainly remove issues for appeal.

Rejections Under the Obviousness-Type Double Patenting Doctrine

Claims 1, 2, 4-18, 20, 22 and 25-34 remain provisionally rejected under the judicially created doctrine against obviousness-type double patenting. (*See*, Office Action of October 31, 2007, at page 4).

However, the Examiner is again respectfully requested to hold these rejections in abeyance and to follow the procedure that is described in M.P.E.P. § 804(I)(B)(1), and reads as follows:

> If a "provisional" nonstatutory obviousness-type double patenting (ODP) rejection is the only rejection remaining in the earlier filed of the two pending applications, while the later-filed application is rejectable on other grounds, the examiner should withdraw that rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer. If the ODP rejection is the only rejection remaining in the later-filed application, while the earlier-filed application is rejectable on other grounds, a terminal disclaimer must be required in the later-filed application before the rejection can be withdrawn.
>
> If "provisional" ODP rejections in two applications are the only rejections remaining in those applications, the examiner should withdraw the ODP rejection in the earlier filed application thereby permitting that application to issue without need of a terminal disclaimer. A terminal disclaimer must be required in the later-filed application before the ODP rejection can be withdrawn and the application permitted to issue. If both applications are filed on the same day, the examiner should determine which application claims the base invention and which application claims the improvement (added limitations). The ODP rejection in the base application can be withdrawn without a terminal disclaimer, while the ODP rejection in the improvement application cannot be withdrawn without a terminal disclaimer.

Accordingly, the Examiner is respectfully requested to issue a Notice of Allowance in this case and to address any possible double patenting issues in the co-pending applications.

Concerning the co-pending applications that are earlier filed, since claim amendments are being made in one or more of these applications which would render the rejection moot,

Applicants believe none of the presently pending claims are identical and all are patentably distinct from the cited co-pending applications.

Rejections Under 35 U.S.C. § 103(a)

Su et al., Su et al. and Kappel et al.

Claims 1, 2, 4-14, 18-31, 33 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable as obvious over Su et al., WO 97/08547 (hereinafter, "Su I"), in light of Su et al., U.S. Patent No. 5,804,684 (hereinafter, "Su II") and further in view of Kappel et al., U.S. Patent Application Publication No. 20040259162 (hereinafter, "Kappel et al."). (*See*, Office Action, at pages 5-10).

Claims 14-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable as obvious over Su I in view of Su II, and further in view of Kappel et al. and further in view of Seto et al., U.S. Patent Application Publication No. 20050045538 (hereinafter, "Seto et al."). (*See*, *Id.*, at pages 10-11).

Claim 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable as obvious over SuI, Su II, Kappel et al. and Natrajan et al., U.S. Patent Application Publication No. 2002/0076823 (*See*, *Id.* at page 11).

Claims 19, 21, 23 and 24 have been cancelled herein without prejudice or disclaimer, thus obviating the rejection as to these claims. Applicants traverse the rejection as to the remaining claims as hereinafter set forth.

Although Applicants do not agree that claim 1 is obvious in light of the cited references, claim 1 has been amended to recite the limitations of claims 19 and 21.

The Examiner states that Su I discloses a porous membrane having an average pore diameter of 1 to 100 microns in diameter and cites to page 7, lines 1 to 100 of Su I. However, page 7 of Su I has only 28 lines and lines 22-28 are the only lines disclosing a size. Lines 22-28 of Su I recite the following:

> Fibrous or particulate forms of a polymer can be readily prepared by mechanical means well-known in the art. "Fibrous" refers to fibers of e.g., 1 micrometer – 10 micrometers and as long as 100, 1,000 or 10,000 micrometers; and "particulate" refers to particles of e.g., about 1 micron to 5 microns, or even as large as 10, 50, or 100 microns in diameter.

Clearly, Su I do not disclose or suggest anywhere in the disclosure a pore diameter of 0.1 to 10 μm, as presently recited in claim 1. Su I only disclose the length of fibers or diameter of particles. Nothing in this passage discloses a pore size or pore diameter.

Thus, the Examiner has failed to establish a *prima facie* case of obviousness because the cited references, even when considered in combination, do not disclose or suggest all of the limitations of the presently claimed invention.

Furthermore, Kappel et al. only mention pore size once throughout the entire disclosure. Paragraph [0135] provides the following pore size disclosure:

> Referring now to FIG. 7, a method of the present invention will be described in the context of a container comprising lytic reagent and capture ligand. The container generally designated as 10 is a column or tube having a generally cylindrical shaft 12 defining an internal chamber, a mouth 13 (which may be covered by upper cap 14), an outlet 15 (which may be covered by lower cap 16). Within the chamber defined by generally cylindrical shaft 12 is a resin bed 18 having capture ligand bound thereto, and a mass of lytic reagent 20 overlying resin bed 18. To support the resin bed in the chamber, container 10 may additionally comprise a porous polyethylene frit (approximately 20 μm pore size).

As seen from the above passage of Kappel et al., Kappel et al. only disclose a polyethylene frit having a pore size of approximately 20 μm. This pore size is at least twice as large as the largest pore size encompassed by claim 1, as amended. Kappel et al. neither suggest the use or application of any other sized pores or any advantages that may be gained therefrom.

The remaining cited secondary references fail to cure the defect of the disclosures of Su I, the Examiner's primary reference, or Kappel et al. That is, none of the other secondary references disclose or suggest any pore sizes within the range encompassed by presently amended claim 1. Neither do any of the references suggest any advantages that may be gained from varying the pore size.

In contrast, the presently claimed invention is directed to a method for effectively extracting a nucleic acid. Since a nucleic acid is adsorbed with a solid phase, it is preferred for the solid phase to have a wider surface area. However, in order to widen the surface area, when the pore diameter of the membrane is made to be small, the generation of foam becomes frequent which causes the clogging of the porous membrane and contamination at the time that the nucleic acids pass through the membrane. Therefore, the present invention performs a very effective nucleic acid extraction by adding an antifoaming agent to a sample solution in which foams are easily generated, and setting a pore diameter.

Reconsideration and withdrawal of the obviousness rejection of claims 1, 2, 4-18, 20, 22 and 25-34 are respectfully requested.

CONCLUSION

If the Examiner has any questions or comments, please contact Thomas J. Siepmann, Ph.D., Registration No 57,374, at the offices of Birch, Stewart, Kolasch & Birch, LLP.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

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Respectfully submitted,

By _____

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